

# Work Order ID 74562

Monday, October 03, 2011 7:48:58 AM



Page 1

Item ID: D206-642-541

Accept



Setup Start



Revision ID:

Stop



Item Name: Replacement Skidtube

Start Date: 9/30/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 10/11/2011 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals:

Process Plan: M.L. J

Date: 11/10/03

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

Draw Nbr

Revision Nbr

D3274

D

IIN-D206-642

Rev M

100

0.00



DC

DOCUMENT CONTROL

Memo

Document Control

Photocopy bluefile & type labels per PPP D206-642-541 CHG003

SCRAP

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

**Part No:** \_\_\_\_\_ **PAR #:** \_\_\_\_\_ **Fault Category:** \_\_\_\_\_ **NCR: Yes No** **DQA:** \_\_\_\_\_ **Date:** \_\_\_\_\_  
**Resolution:** \_\_\_\_\_ **Disposition:** \_\_\_\_\_ **QA: N/C Closed:** \_\_\_\_\_ **Date:** \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

110

0.00



Skidtubes

0.00

Skidtubes

Memo

\*\*\*\*VERIFY AND INSPECT THE MATERIAL PRIOR TO USE\*\*\*\*

1- Bend FWD end of tube using bend prog D3274 FWD and foil 10 as per dwg D3274, cut fwd end of tube with saw table setup D3274.

AT 12-01-13

2- remove fwd indexing ridge as per dwg D3274. Prepare for welding

SAD 12-01-19

3- weld fwd cap as per dwg D3274 and QSI004

AR Aluminum Rod Batch: m11972/m119785

BE 12-01-20

4- grind fwd cap weld on top surface only

5- Cut AFT end of tube at 170.9" as per dwg D3274 and deburr end.

6-Drill Aft cap pilot hole using DT8025

7 -Cleco DT8025 in position and install pilot hole drill Jig DT8742A,B,C,D. Drill 3/16" pilot holes as per Dwg D3274

8 -Remove inner indexing ridge on aft end of skidtube as per Dwg D3274 scribe batch #

9 -Open aft end cap holes to Ø0.208" as per Dwg D3274. Deburr aft end.

B 12/01/24

W/O:		WORK ORDER CHANGES					
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QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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130

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

150

Skidtubes

0.00



Skidtubes

Memo

0.00

Skidtubes

1-Open Ø0.313" and 0.375" crossbolt spacer holes as per Dwg D3274

2-Deburr crossbolt spacer holes as per Dwg D3274 and blow out chips from inside the tube

3-Bond web in place as per Dwg D3274 &amp; QSI 015.

A/R ☐ Sikaflex-291 ☐ 115557 ☐Sikaflex expire date: ☐ 12/08/13 ☐Start: ☐ 2.00 ☐ Time: ☐ 12/01/27Finish: ☐ ☐ Time: ☐

(Adhere for 12 hours).

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D706 692-541 PAR #: \_\_\_\_\_ Fault Category: Landis gear / scratch NCR: Yes No DQA: OK Date: 12/04/23  
 Resolution: SCRAP Disposition: SCRAP QA: N/C Closed: CK Date: 12/4/23

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
12/01/23	150	SEQ 110 TUBE CUT TO SHORT P.C. DIDN ADD 0.100" extra for <del>2nd</del> 2nd	12-04-17	Scrap + Dash tube same <del>2nd</del> web, possible	12-4-19	SAD 12-04-19	12-04-17	12/04/16
								12/04/16

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Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160 	QC5- Inspect part completeness to step on W/O	0.00							
QC Quality Control	Memo	0.00							
170 	Skidtubes	0.00							
Skidtubes	Memo	0.00							
Skidtubes	1-Bend AFT end of tube using bend prog. D3274 AFT as per dwg D3274. Install drop pins in crossbolt spacer holes to maintain web position.  2- DRILL PILOT HOLES FOR WEARPLATES USING D3274-1T2 OPEN HOLES TO .297" . Deburr  3-DRILL TOE PIN HOLE .640" DIA AS PER DWG USING DT8935 FWD END OF TUBE DEBURR INSIDE OF HOLE AS NECESSARY (DO NOT ENLARGE HOLES) REMOVE ANY FOREIGN OBJECTS INSIDE OF TUBES  4- Countersink crossbolt spacer holes as per Dwg D3274  5- prepare for welding								

W/O:		WORK ORDER CHANGES					
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Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Customer:

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Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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180

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

190

Skidtubes

0.00



Skidtubes

Memo

0.00

Skidtubes

1-Insert D2649 & D3275-1 crossbolt spacers. Weld as per QSI 004 and Dwg D3274. Remember to back drill each hole before welding the other side. Use aluminum rod  
A/R ☐ Aluminum Rod ☐

3-Grind cross bolt welds flush as per Dwg D3274.

4-Counterbore 5/16" x 0.750" deep as per Dwg D3274 and deburr.

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Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
200  QC Quality Control	QC5- Inspect part completeness to step on W/O  Memo	0.00  0.00							
210  QC Quality Control	QC10- Inspect visual per QSI004- ground welds  Memo	0.00  0.00							
220  HandFinish Hand Finishing	Pressure Wash per QSI005 4.3  Memo Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch	0.00  0.00							

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Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
230  Powdercoat Powder Coating	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum  <b>Memo</b> START TIME: _____ OVEN TEMPERATURE: _____ FINISH TIME: _____	0.00  0.00							
240  QC Quality Control	QC3- Inspect Part Finish  <b>Memo</b>	0.00  0.00							
250  HandFinish Hand Finishing	HandFinishing  <b>Memo</b> 1-Install Nut Plate as per Dwg D3274. Apply LPS-3 to Nut Plate and rivets. A/R <input type="checkbox"/> N/A <input type="checkbox"/> LPS-3 <input type="checkbox"/> _____  2-Install inserts as per Dwg D3274. Use a drop of Sikaflex inside insert holes a A/R <input type="checkbox"/> <input type="checkbox"/> Sikaflex-291 <input type="checkbox"/> _____ <input type="checkbox"/> <input type="checkbox"/> Sikaflex expire date: <input type="checkbox"/> _____	0.00  0.00							

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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260

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

Inspect Nut Plate &amp; Inserts

270

HAND FINISHING RESOURCE #1

0.00



HandFinish

Memo

0.00

Hand Finishing

1-Install wearpads &amp; gaskets as per Dwg D3274.

2-Install ring as per Dwg D3274

A/R ☐ Sikaflex-291 ☐ \_\_\_\_\_ ☐Sikaflex expire date: ☐ \_\_\_\_\_

3-Inspect for foreign objects as per QSI 024

4-Spray inside of tube on both sides of web with LPS-3

A/R LPS-3 Batch: \_\_\_\_\_

5-Install Aft Cap and seal with Sikaflex. Clean excess adhesive.

A/R ☐ Sikaflex-291 ☐ \_\_\_\_\_ ☐Sikaflex expire date: ☐ \_\_\_\_\_

W/O:		WORK ORDER CHANGES					
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QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop



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280	QC5- Inspect part completeness to step on W/O	0.00							
QC	Memo	0.00							
Quality Control									
290	Identify as per dwg & Stock Location: _____	0.00							
Packaging	Memo	0.00							
Packaging									
300	QC21- Final Inspection - Work Order Release	0.00							
QC	Memo	0.00							
Quality Control									

012-04-19

W/O:		WORK ORDER CHANGES					
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Monday, October 03, 2011 7:49:06 AM

**Parent Item:** D206-642-541




**Parent Item Name:** Replacement Skidtube

**Start Date:** 9/30/2011**Required Date:** 10/11/2011

**Start Qty:** 1.00

**Required Qty: 1.00**

**Comments:** IPP Rev:B 05.09.23 Revised per D206-642 Rev. J KJ/JLM  
 IPP Rev:C 07-02-23 Added SS Wearplates & Gaskets JLM  
 IPP Rev:D 07-12-06 replace NAS1515H3L to D3672-1 DD  
 IPP Rev:E 08-04-17 as per PAR 08-015 DD verified by:EC  
 IPP Rev:F 08-06-02 add comment DD verified by:EC  
 IPP Rev:G 08-10-09 revise details DD verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D2600-I-190  Extrusion Round 3" 206		Manufactured	No			110	Each	67.4000	1	1			
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				HALL		67.4							
					59874	9.4							
					69622	58							
D3285-I  Cap		Manufactured	No			110	Each	85.0000	1	1			
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				LG002		85							
					52511	38							
					52647	47							
D3282-041  Float Web (206L/407)		Manufactured	No			150	Each	1.0000	1	1			
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				LG		1							
					70050	1							

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# Picklist Print

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Parent Item: D206-642-541

Parent Item Name: Replacement Skidtube

Start Date: 9/30/2011

Required Date: 10/11/2011

Start Qty: 1.00

Required Qty: 1.00

D2649

Manufactured No

190

Each

1,833.000

12

12



Cross Bolt Spacer

Location

Loc Qty

Loc Code

LG

736

68224

2

71355

2

72704

2

72841

130

73855

600

LG001

1097

65317

1

68507

11

73390

35

73857

450

73860

600

D3275-1

Manufactured No

190

Each

284.0000

12

12



Crossbolt Spacer

Location

Loc Qty

Loc Code

LG

24

72123

24

LG002

260

66930

106

73393

154

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Shop Packet Print

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Start Date: 9/30/2011

Required Date: 10/11/2011

Start Qty: 1.00

Required Qty: 1.00

CR3212-4-03

Purchased

No

250

Each

2,110.000

2

2



Cherry Rivet

Location

Loc Qty

Loc Code

FP-B

2

110139

2

ST311

1108

114859

1108

ST318

1000

119017

1000

D3415-041

Manufactured

No

250

Each

42.0000

1

1



Nut Plate

Location

Loc Qty

Loc Code

ST053

42

67605

42

CCR264SS3-3

Purchased

No

250

Each

1,395.000

2

2



Cherry Rivet

Location

Loc Qty

Loc Code

FP-B

2

113973

2

ST311

393

117086

15

117849

378

ST317

1000

119017

1000

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Monday, October 03, 2011 7:49:06 AM

Work Order ID: 74562



Parent Item: D206-642-541



Parent Item Name: Replacement Skidtube

Start Date: 9/30/2011

Required Date: 10/11/2011

Start Qty: 1.00

Required Qty: 1.00

ALS4-1032-130

Purchased

No

250

Each

2,346.000

78

78



Insert

LocationLoc QtyLoc Code

ST280

2000

119084

2000

ST281

288

118386

288

ST282

58

117717

8

118237

48

118312

2

D3536-15

Manufactured

No

270

Each

40.0000

1

1



Gasket

LocationLoc QtyLoc Code

FP002

26

73318

26

FP011

14

71586

13

72881

1

D3536-23

Manufactured

No

270

Each

36.0000

1

1



Gasket

LocationLoc QtyLoc Code

FP002

26

73312

26

FP011

10

43406

1

71579

9

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Monday, October 03, 2011 7:49:06 AM

Work Order ID: 74562



Parent Item: D206-642-541



Parent Item Name: Replacement Skidtube

Start Date: 9/30/2011

Required Date: 10/11/2011

Start Qty: 1.00

Required Qty: 1.00

D3536-35

Manufactured No

270 Each

35.0000

1

1



Gasket

Location

Loc Qty

Loc Code

FP002

22

73313

22

FP012

13

71587

4

72882

9

D3536-39

Manufactured No

270 Each

38.0000

1

1



Gasket

Location

Loc Qty

Loc Code

FP002

26

73317

26

FP015

12

69760

12

D3535-15

Manufactured No

270 Each

26.0000

1

1



Wearshoe

Location

Loc Qty

Loc Code

FP007

25

73006

12

73315

13

FP018

1

69931

1

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Monday, October 03, 2011 7:49:07 AM

Work Order ID: 74562



Parent Item: D206-642-541





Parent Item Name: Replacement Skidtube

Start Date: 9/30/2011



Required Date: 10/11/2011

Start Qty: 1.00



Required Qty: 1.00

D3535-35      Manufactured      No      270      Each      28.0000      1      1  
        
Wearshoe

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP018	28	
67598	1	
70815	1	
73311	26	

D3535-39      Manufactured      No      270      Each      31.0000      1      1  
        
Wearshoe

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP018	31	
69759	1	
72159	10	
73316	20	

D3535-23      Manufactured      No      270      Each      36.0000      1      1  
        
Wearshoe

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP021	36	
71581	10	
73314	26	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & Initial all entries



# Picklist Print

Monday, October 03, 2011 7:49:07 AM

Work Order ID: 74562



Parent Item: D206-642-541



Parent Item Name: Replacement Skidtube

Start Date: 9/30/2011

Required Date: 10/11/2011

Start Qty: 1.00

Required Qty: 1.00

D3537-3 Manufactured No

270 Each

31.0000

1

1



Wearpad

Location

Loc Qty

Loc Code

FP

4

70481

4

FP002

14

73305

14

FP017

13

35697

1

72144

8

72686

4

D3537-1 Manufactured No

270 Each

150.0000

9

9



Wearpad

Location

Loc Qty

Loc Code

FP001

143

72124

23

73394

60

73395

60

FP017

7

69817

5

70686

2

AN960C10L NAS1149C0332 Purchased No

270 Each

0.0000

80

80



washer

AN960C416 NAS1149C0463 Purchased No

270 Each

0.0000

1

1



washer

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Page 8

Monday, October 03, 2011 7:49:07 AM

Work Order ID: 74562



Parent Item: D206-642-541



Parent Item Name: Replacement Skidtube

Start Date: 9/30/2011

Required Date: 10/11/2011

Start Qty: 1.00

Required Qty: 1.00

D3672-1

Manufactured No

270 Each

1,058.000 2 2



Phenolic Washer

Location

Loc Qty

Loc Code

ST074

1056

64177

86

66821

470

72229

500

ST077

2

52505

2

AN3C4A

Purchased No

270 Each

2,547.000 80 80



BOLT

Location

Loc Qty

Loc Code

ST350

2547

117313

2

117688

5

117872

22

118112

16

118451

932

118706

500

118838

1000

118983

70

Monday, October 03, 2011 7:49:07 AM

Shop Packet Print

Page 8

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Monday, October 03, 2011 7:49:07 AM

Work Order ID: 74562



Parent Item: D206-642-541



Parent Item Name: Replacement Skidtube

Start Date: 9/30/2011

Required Date: 10/11/2011

Start Qty: 1.00

Required Qty: 1.00

AN4C5A

Purchased

No

270

Each

569.0000

1

1



BOLT

Location

Loc Qty

Loc Code

FP-B

90

112243

90

ST345

379

112243

379

ST356

100

119017

100

D2646

Manufactured

No

270

Each

83.0000

1

1



Aft Cap

Location

Loc Qty

Loc Code

FP004

40

68280

40

FP006

5

62678

5

FP-4

34

70945

1

71070

33

fp5

4

71038

4

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Monday, October 03, 2011 7:49:07 AM

Work Order ID: 74562



Parent Item: D206-642-541



Parent Item Name: Replacement Skidtube

Start Date: 9/30/2011

Required Date: 10/11/2011

Start Qty: 1.00

Required Qty: 1.00

D3413-1

Manufactured

No

270

Each

45.0000

1

1



Ring

Location

Loc Qty

Loc Code

ST420

5

66387

1

70773

4

ST467

40

72137

20

73298

20

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



**DART**

RELEASED

07.02.12

DEO ATTACHED

DESIGN CP	DRAWN BY PH	DART AEROSPACE USA, INC. PORT HADLOCK, WA	
CHECKED [Signature]	APPROVED [Signature]	DRAWING NO. D3274	REV. D SHEET 1 OF 4
DATE 06.12.19		TITLE SKIDTUBE ASSEMBLY	SCALE NTS
A	04.03.15	NEW ISSUE	
B	04.08.09	MOVE SADDLE HOLE: 42.14 WAS 42.76	
C	05.03.16	ADD -043; NEW INSERTS	
D	06.12.19	NEW INSERTS, SS WEARSHOE + GASKET	

Qty -041	Qty -043	Part Number	Description
X		D3274-041	SKIDTUBE ASSEMBLY
	X	D3274-043	SKIDTUBE ASSEMBLY
1	1	D2600-1-240	EXTRUSION
1	1	D2646	AFT CAP
12	12	D2649	CROSS BOLT SPACER
12	37	D3275-1	CROSS BOLT SPACER
1	1	D3282-041	FLOAT WEB
1	1	D3285-1	CAP
1	1	D3413-1	RING
1	1	D3415-041	NUT PLATE
1	1	D3535-15	WEARSHOE
1	1	D3535-23	WEARSHOE
1	1	D3535-35	WEARSHOE
1	1	D3535-39	WEARSHOE
1	1	D3536-15	GASKET
1	1	D3536-23	GASKET
1	1	D3536-35	GASKET
1	1	D3536-39	GASKET
9	9	D3537-1	WEARPAD
1	1	D3537-3	WEARPAD
78	78	ALS7-1032-130	INSERT (or AKS4-1032-130, ALS4-1032-130, AELS-1032-130)
80	80	AN3C4A	BOLT
1	1	AN4C5A	BOLT
1	1	AN960C416	WASHER
80	80	AN960C10L	WASHER
2	2	CCR264SS3-3	RIVET
2	2	CR3212-4-03	RIVET
2	2	NAS1515H3L	WASHER

**GENERAL NOTES:**

1. TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
2. DAMAGE TOLERANCE ON FWD BEND:  
THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 7 INCHES ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP TO 0.020 DEEP IN THE BENT PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE.
3. ALL HOLES DRILLED ON CENTERLINES.
4. BOND D3282-041 FLOAT WEB INTO D3274-1/-3 OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241/291 ADHESIVE PER DART QSI 015. ENSURE HOLES LINE-UP.
5. WELDING TO BE DONE PER DART QSI 004.
6. FINISH: - ACID ETCH, ALODINE ASSEMBLY PER DART QSI 005 4.1  
- POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
7. DRILL Ø0.297 HOLES FOR ALS7-1032-130 INSERTS USING DT3274-1T2 BEFORE FINISH. INSTALL ALS7-1032-130 INSERTS AFTER FINISH. SEAL WEARSHOE BOLTS WITH SIKAFLEX -241/-291.
8. SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

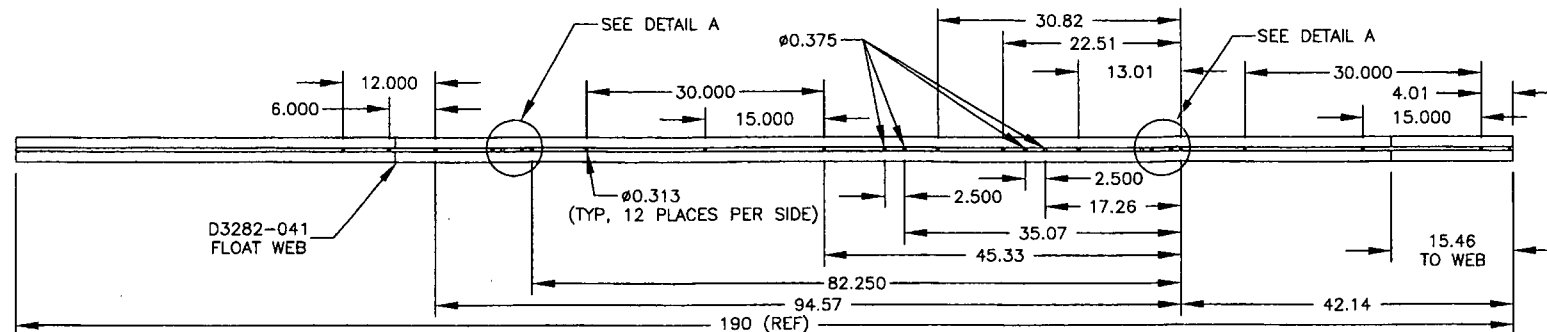
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Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

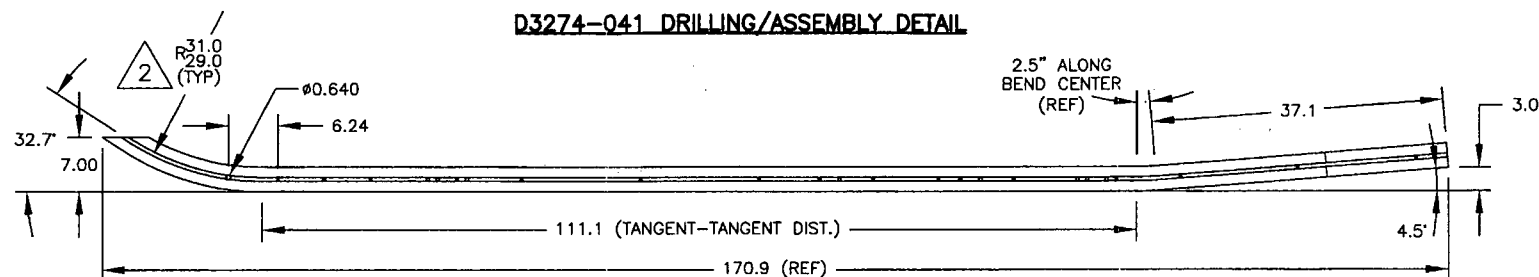
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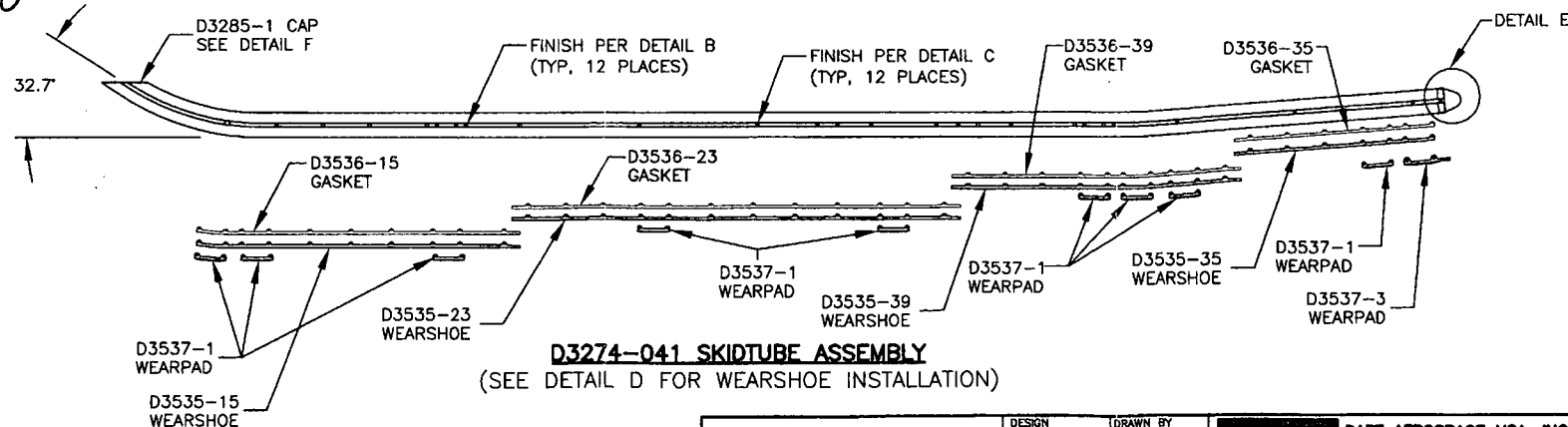
**D3274-041 DRILLING/ASSEMBLY DETAIL**

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 74562

M.C.J



**D3274-041 BEND/DRILLING DETAIL**



**D3274-041 SKIDTUBE ASSEMBLY**  
(SEE DETAIL D FOR WEARSHOE INSTALLATION)

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DART AEROSPACE USA, INC.

DESIGN	CP	DRAWN BY	PH	<b>DART</b> DART AEROSPACE USA, INC.
CHECKED	#	APPROVED	#	PORT HADLOCK, WA
DATE	06.12.19	DRAWING NO.	D3274	REV. D
		TITLE	SKIDTUBE ASSEMBLY	SHEET 2 OF 4
		SCALE	1:15	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

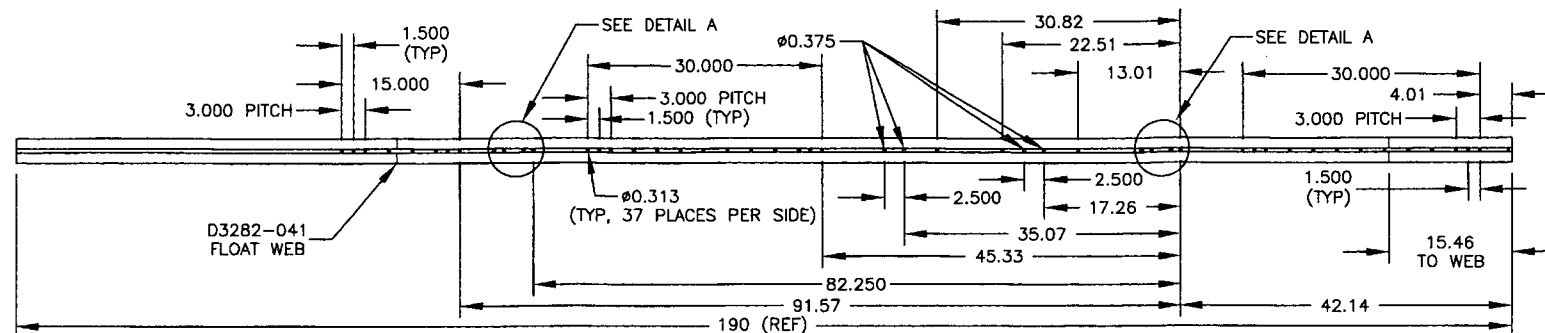
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

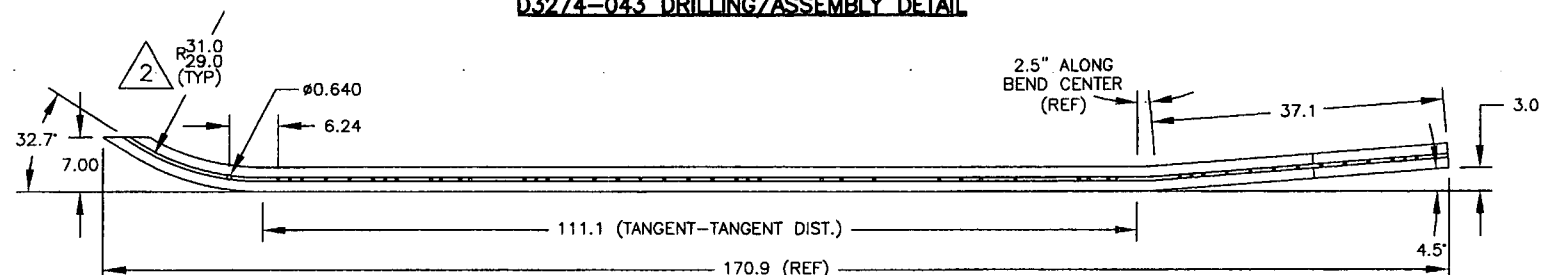
**NOTE:** Date & initial all entries

74562

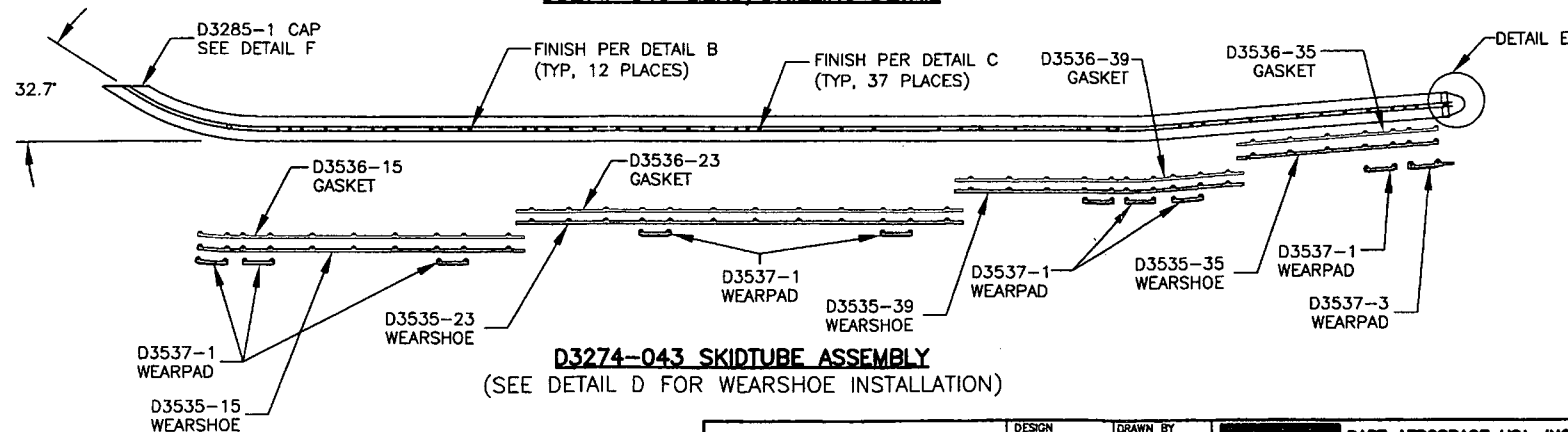
DEO ATTACHED



D3274-043 DRILLING/ASSEMBLY DETAIL



D3274-043 BEND/DRILLING DETAIL



D3274-043 SKIDTUBE ASSEMBLY

(SEE DETAIL D FOR WEARSHOE INSTALLATION)

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DESIGN	CP	DRAWN BY	PH	<b>DART</b> DART AEROSPACE USA, INC.
CHECKED	H	APPROVED	H	PORT HADLOCK, WA
DATE	06.12.19	DRAWING NO.	D3274	REV. D
		TITLE	SKIDTUBE ASSEMBLY	SHEET 3 OF 4
				SCALE 1:15

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

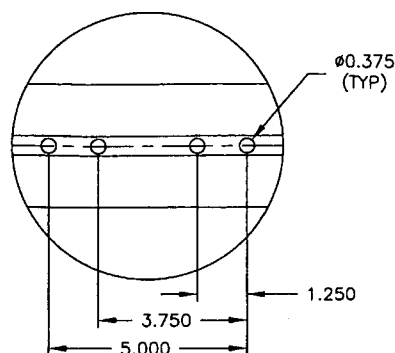
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

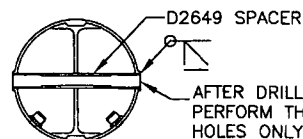
**NOTE:** Date & initial all entries

74562

# **DETAIL A: DRILL DETAIL**

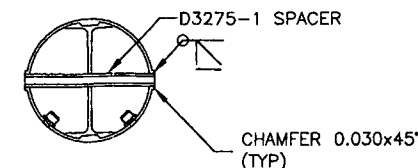


## **DETAIL B** FOR 0.375 HOLES ONLY

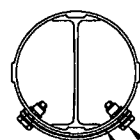


AFTER DRILLING AND BENDING ASSEMBLY  
PERFORM THE FOLLOWING FOR 0.375  
HOLES ONLY:  
1. CHAMFER HOLE 0.030x45°  
2. INSERT D2649 SPACER  
3. WELD INTO PLACE AND GRIND FLUSH  
4. C'BORE TO 0.313x0.75 DEEP

## **DETAIL C** FOR 0.313 HOLES ONLY



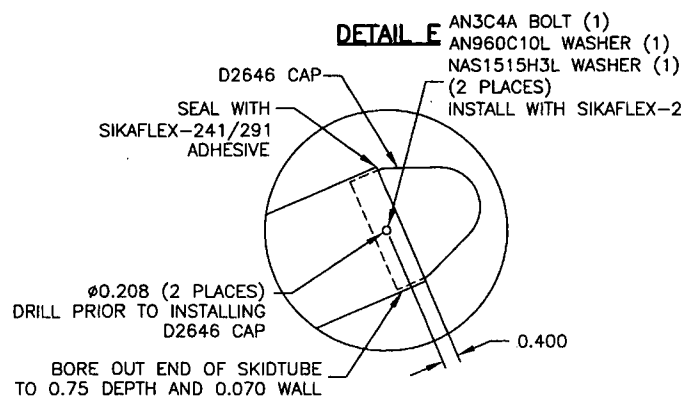
## **DETAIL D**



ALS7-1032-130 INSERT (1)  
AN3C4A BOLT (1)  
AN960C10L WASHER (1)  
(78 PLACES)

GASKET/WEARSHOE/WEARPAD (REF)

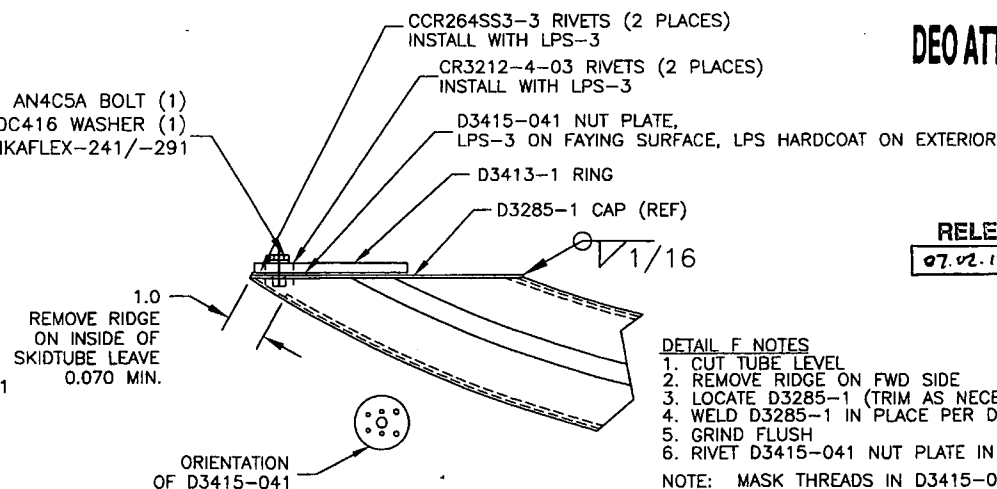
## **DETAIL E**



SEAL WITH  
SIKAFLEX-241/291  
ADHESIVE

AN3C4A BOLT (1)  
AN960C10L WASHER (1)  
NAS1515H3L WASHER (1)  
(2 PLACES)  
INSTALL WITH SIKAFLEX-241/-291

## **DETAIL F: END FINISHING DETAIL**



**DETAIL F NOTES**  
1. CUT TUBE LEVEL  
2. REMOVE RIDGE ON FWD SIDE  
3. LOCATE D3285-1 (TRIM AS NECESSARY)  
4. WELD D3285-1 IN PLACE PER DART QSI 004  
5. GRIND FLUSH  
6. RIVET D3415-041 NUT PLATE IN PLACE  
NOTE: MASK THREADS IN D3415-041  
PRIOR TO FINISH

DEO ATTACHED

RELEASED

07.02.12

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PERSON WITHOUT WRITTEN PERMISSION FROM  
DART AEROSPACE USA, INC.

DESIGN	CP	DRAWN BY	PH	<b>DART</b> DART AEROSPACE USA, INC. PORT HADLOCK, MA
CHECKED	✓	APPROVED	✓	DRAWING NO. D3274
DATE	06.12.19	TITLE	SKIDTUBE ASSEMBLY	REV. 'D' SHEET 4 OF 4 SCALE 1:3

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



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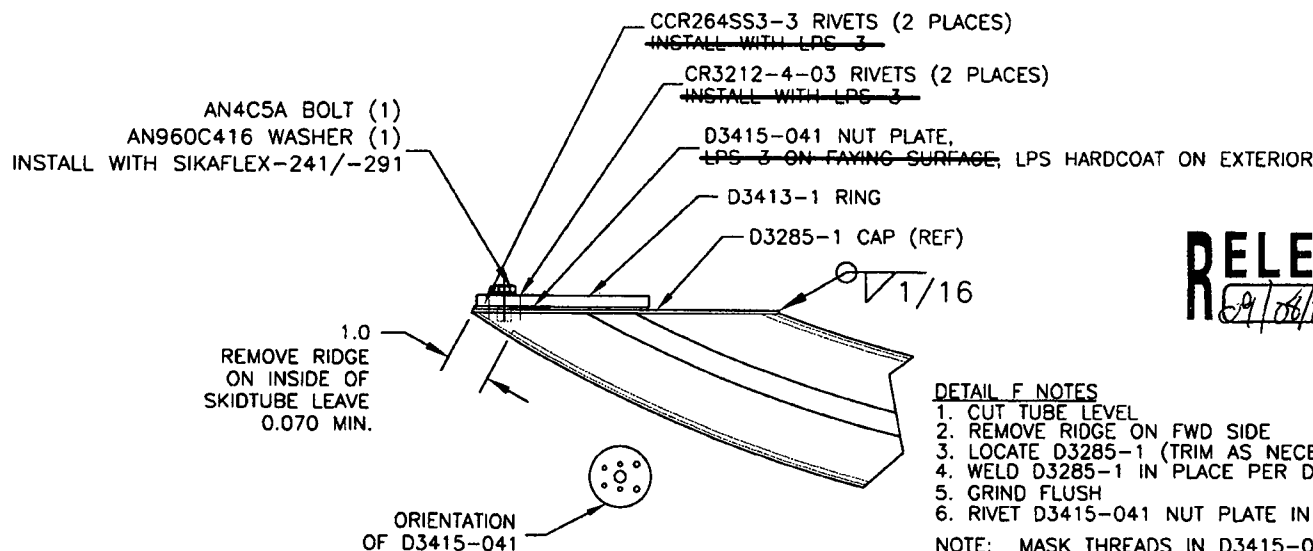
DRAWING NO. D3274	TITLE SKIDTUBE ASSEMBLY	REV. D	<b>DART AEROSPACE USA, INC</b> <b>ENGINEERING ORDER</b>	D.E.O. NO. D3274-D-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>UP</i>	CHECKED <i>[Signature]</i>	MFG. APPR. <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DE APPR. <i>[Signature]</i>		
DATE 09.06.17	DATE 09.06.23	DATE 09/06/23	DATE 09/06/23	DATE 09.06.23		

LPS-3 IS NO LONGER USED DURING ASSEMBLY OF SKIDTUBE.

AMEND NOTE 8: "~~SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES 'LPS 3' AFTER FINISH AND INSTALLATION OF INSERTS.~~  
COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES 'LPS PROCYON' AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF  
POWDER COATING WITH MEK DEGREASER."

AMEND DETAIL F AS SHOWN:

### DETAIL F: END FINISHING DETAIL



**RELEASED**  
09/06/23

#### DETAIL F NOTES

1. CUT TUBE LEVEL
2. REMOVE RIDGE ON FWD SIDE
3. LOCATE D3285-1 (TRIM AS NECESSARY)
4. WELD D3285-1 IN PLACE PER DART QSI 004
5. GRIND FLUSH
6. RIVET D3415-041 NUT PLATE IN PLACE

NOTE: MASK THREADS IN D3415-041  
PRIOR TO FINISH

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries